

# Work Order ID 88104

Thursday, July 26, 2012 11:01:06 AM

**\*88104\***

Page 1

Item ID: D3552-27 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Door Prop  
 Start Date: 7/26/2012 Start Qty: 1.00 **\*1\*** Cust Item ID:  
 Required Date: 8/9/2012 Req'd Qty: 1.00 **\*1\*** Customer:  
 Reference: ECN 12-624 - **REWORK**

Approvals: Process Plan: MF Date: 12-07-26 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3552	J								

150

0.00

**\*150\***

Purchasing

Purchasing

Memo

0.00

PULL FROM STOCK D3552-27 X 1 B77671 ✓  
 AND SEND TO LS TECHNOLOGIES TO HAVE REWORKED PER ECN 12-624

Issue P/O: 175-49  
 Supplier: LS Technologies  
 Certificate of conformity is required

155

160

**\*160\***

QC

Quality Control

Memo

0.00

\*MAY NEED DIFF INSPECTION METHOD TO RECEIVING DOOR PROPS  
 TO ENSURE EXTRA DAMPING FEATURE\*

QC6- Inspect dimensions to drawing

0.00

*Receive & Inspect*

DAS  
16

12/08/10

76

12-07-27

*[Signature]* ①

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Skid-tube <input type="checkbox"/></td> <td style="width: 33%;">Crosstube <input type="checkbox"/></td> <td style="width: 33%;">Water Jet <input type="checkbox"/></td> <td style="width: 33%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>																								
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																									
<b>Root Cause</b>	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector																		
Doc/Data <input type="checkbox"/>																											
Equip/Tooling <input type="checkbox"/>																											
Operator <input type="checkbox"/>																											
Material <input type="checkbox"/>																											
Setup <input type="checkbox"/>																											
Other <input type="checkbox"/>																											
Process <input type="checkbox"/>																											
Supplier <input type="checkbox"/>																											
Training <input type="checkbox"/>																											
Unapproved <input type="checkbox"/>																											

FAULT CATEGORY												
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other	

**Work Order ID 88104**

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**\*88104\***

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Item ID: D3552-27      Accept      **\*N900040100\***      Setup Start **\*NS1\***  
Revision ID:      Stop **\*NS2\***  
Item Name: Door Prop  
Start Date: 7/26/2012      Start Qty: 1.00      **\*1\***      Cust Item ID:  
Required Date: 8/9/2012      Req'd Qty: 1.00      **\*1\***      Customer:  
Reference: ECN 12-624

Approvals:      Process Plan:      Date:      Tooling:      Date:      Run Start **\*NR1\***  
QC:      Date:      SPC (Y/N):      Date:      Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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170	Identify as per dwg & Stock Location: <i>SC264</i>	0.00							
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**\*170\***

Packaging

Memo

0.00

Packaging

1X

*SD*  
*12-8-10.*

180	QC21- Final Inspection - Work Order Release	0.00							
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**\*180\***

QC

Memo

0.00

Quality Control

*12/8/13**MF*  
*12-08-11*

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
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Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

**FAULT CATEGORY**

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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## List Lots

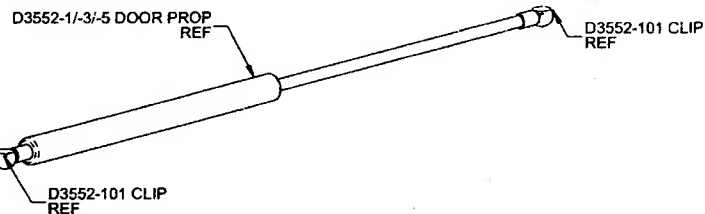
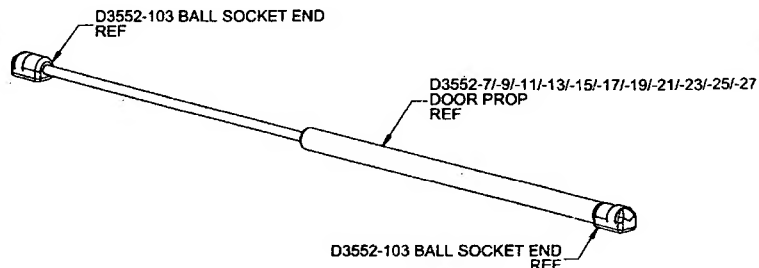
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Criteria : Item ID: d3552-27 All Locations All Warehouses All Quantity

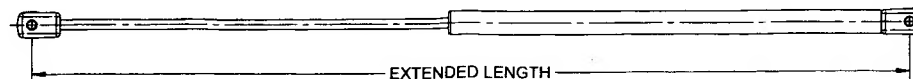
Item ID Item Name	Warehouse ID Location ID	Lot Number	Last Trans Date	Lot Qty	Shelf Life Dt Lot Code	Type Code	Comments
D3552-27 Door Prop	Main Warehouse ST272A	77671	2/9/2012	1.0000	QC21		
Total:				1.0000			

# SPECIFICATION CONTROL DRAWING



**RELEASED**  
2012-07-24

K	ADD "X" TO LS TECHNOLOGIES P/Ns TO DESIGNATE "EXTRA DAMPING" FOR D3552-15/-17/-19/-25/-27. REASON: PAR12-209.	MB	12.07.16
J	ADD P/N D3552-25/-27. REMOVE ALTERNATE PART NUMBER FOR -15, -17 AND -19. STROKE FOR -15, -17 AND -19 WAS 139/6.06 NOW 154/6.06. EXTENDED LENGTH FOR -15, -17 AND -19 WAS 386/15.2 NOW 387/15.2.	AP	11.12.07
I	ADD P/N D3552-23	RF	11.10.11
H	ADD P/N D3552-21	DC	11.03.10
G	FOR -15, FORCE: 300/67.4 WAS 400/89.9, SUPPLIER P/N B8-154-387-300N WAS B8-154-387-400N; FOR -17, STROKE: 139/6.47 WAS 160/6.30, EXT LG: 386/15.2 WAS 407/16.0, SUPPLIER P/N B8-154-387-156N WAS B8-167-408-156N	JPH	10.11.01
F	ADD P/N D3552-15/-17/-19 AND ALTERNATE SUPPLIER	JPH	10.07.27
E	ADD P/N D3552-13 ZN B8-1, A8-1, D6-1, CHANGE NAME FROM "GAS SPRING" TO "DOOR PROP" THROUGH OUT DWG	HS	10.02.03
D	ADD P/N D3552-101 ZN D6-1, C7-1, C1-1 AND D3552-103 ZN D1-1 AND C2-1 AND ZN B8-1; ADD NOTE REGARDING D3552-101 AND D3552-103 COMPATIBILITY ZN A8-1	HS	09.04.02
C	ADD D3552-11 AND CONVERSIONS FOR INSPECTION; UPDATE P/N FOR D3552-7	LE	07.06.01
B	ADD D3552-7/-9; UPDATE DESC. D3552-1/-3/-5	LE	06.10.24
A	NEW ISSUE	LE	06.09.15
REV.	DESCRIPTION	BY	DATE
DESIGN	JE	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	JE		
CHECKED	JE	DRAWING NO.	REV. K
MFG. APPR.	JE	D3552	SHEET 1 OF 2
APPROVED	JE	TITLE	SCALE
DE APPR.	JE	DOOR PROP	NTS
DATE	12.07.16	<small>COPYRIGHT © 2005 BY DART AEROSPACE LTD  THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



DART PART NUMBER	DESCRIPTION	STROKE (mm/in)	EXTENDED LENGTH (mm/in)	FORCE (N/lb)	END FITTING	MATERIAL	SUPPLIER	SUPPLIER PART NUMBER OR MODEL NUMBER
D3552-1	DOOR PROP	220/8.66	530/20.6	70/15.7	10mm SS BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	C8-220-530-070N
D3552-3	DOOR PROP	200/7.87	490/19.3	200/45.0	10mm SS BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	C8-200-490-200N
D3552-5	DOOR PROP	175/6.89	430/16.9	150/33.7	10mm SS BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	C8-175-430-150N
D3552-7	DOOR PROP	220/8.66	530/20.9	70/15.7	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B8-220-530-070N
D3552-9	DOOR PROP	200/7.87	490/19.3	200/45.0	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B8-200-490-200N
D3552-11	DOOR PROP	240/9.45	575/22.6	150/33.7	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B8-240-575-150N
D3552-13	DOOR PROP	220/8.66	530/20.9	140/31.5	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B6-220-530-140N
D3552-15	DOOR PROP W/EXTRA DAMPING	154/6.06	387/15.2	300/67.4	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B8-154-387-300NX
D3552-17	DOOR PROP W/EXTRA DAMPING	154/6.06	387/15.2	156/35.1	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B8-154-387-156NX
D3552-19	DOOR PROP W/EXTRA DAMPING	154/6.06	387/15.2	60/13.5	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B8-154-387-060NX
D3552-21	DOOR PROP	167/6.57	410/16.1	70/15.7	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B6-167-410-070N
D3552-23	DOOR PROP	190/7.48	475/18.7	70/15.7	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B6-190-475-070N
D3552-25	DOOR PROP W/EXTRA DAMPING	148/5.83	475/18.7	300/67.4	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B8-148-475-300NX
D3552-27	DOOR PROP W/EXTRA DAMPING	148/5.83	475/18.7	156/35.1	10mm NYLON BALL SOCKET	CARBON STEEL	LS TECHNOLOGIES	B8-148-475-156NX
2 D3552-101	CLIP	N/A	N/A	N/A	N/A	CARBON STEEL	LS TECHNOLOGIES	C9
3 D3552-103	BALL SOCKET END	N/A	N/A	N/A	N/A	NYLON	LS TECHNOLOGIES	B10

# **D3552-X DOOR PROP**

**RELEASED**  
2012-07-24

## **NOTES:**

- 1) IDENTIFICATION: IDENTIFY PER QSI 044 6.2
- 2) D3552-101 CLIP IS ONLY COMPATIBLE WITH D3552-1/-3/-5 DOOR PROPS
- 3) D3552-103 BALL SOCKET END IS ONLY COMPATIBLE WITH D3552-7/-9/-11/-13/-15/-17/-19/-21/-23/-25/-27 DOOR PROPS

DESIGN	DE	<b>DART AEROSPACE LTD</b>	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	RP	DRAWING NO. D3552	REV. K
MFG. APPR.			SHEET 2 OF 2
APPROVED		TITLE DOOR PROP	SCALE NTS
DE APPR.			
DATE	12.07.16	COPYRIGHT © 2006 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



LS Technologies Inc  
314 Jessop Ave  
Saskatoon, SK, S7N 1Y6  
Ph: (306) 683-5000 Fax: (306) 683-6403

**Certificate of Compliance**

This is to certify that the parts listed below meets specifications as required by your order.

Aug 09, 2012

10 Units: D3552-17 Carbon Steel Gas Spring

14 Units: D3552-15 Carbon Steel Gas Spring

1 Unit : D3552-27 Carbon Steel Gas Spring S171090110

10 Units: D3552-19 Carbon Steel Gas Spring

2 Units: D3552-25 Carbon Steel Gas Spring

Country of Manufacture: Canada  
Date of Manufacture : July 2012  
This product is ROHS compliant.

Purchase Order # 17549  
Invoice # 8930

LS Technologies Inc Canada

Nolan Fehr  
Manager



LS TECHNOLOGIES INC

314 Jessop Ave  
Saskatoon , SK S7N 1Y6

Ph # (306) 683-5000

# Packing Slip

P.O. No.	Date	Invoice #
17549	8/09/2012	8930

Name / Address
Dart Aerospace Ltd 1270 Aberdeen St. Hawkesbury, ON K6A 1K7

Ship To
Main Finished Goods Location Dart Aerospace Ltd 1270 Aberdeen St. Hawkesbury, ON K6A 1K7

Ship	Via	FOB
8/09/2012	Fed-Ex	

Qty	Description
	Parts returned from DART for rework to add Extra End of Stroke Dampening
10	D3552-17 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-154-387-156NX )
14	D3552-15 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-154-387-300NX )
1	D3552-27 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-148-475-156NX )
10	D3552-19 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-154-387-060NX )
2	D3552-25 - Increase Dampening and Apply new Dart labels ( LST Prt # B8-148-475-300NX )
	Shipping Via FED EX Tracking # 798717499878